U.S. Fish & Wildlife Service

The Coastal Program

Success in Delaware Bay

Caring for Our Coastal Habitats

Pileated woodpecker.
Photo: Corel Corp.

The U.S. Fish and Wildlife Service's Coastal Program in Delaware Bay forges innovative partnerships to protect and restore high priority fish and wildlife habitat including coastal wetlands, shorebird habitat, and waterfowl areas.

The Delaware Bay contains some of the country's most important migratory bird habitat. During fall and winter, tens of thousands of waterfowl can be found there feeding and resting. Each spring, the area hosts the second largest concentration of shorebirds in North America as birds migrating from South America to the Arctic stop to fuel up for the long journey north.

Two projects in the Delaware Bay watershed illustrate how the Coastal Program and its partners are working together to conserve this important area.

Conserving Waterfowl Habitat

With its knowledge of Federal funding sources, the Coastal Program helped The Nature Conservancy successfully apply for a North American Wetlands Conservation Act Challenge Grant to acquire from willing sellers 11 miles of the longest contiguous section of unprotected shoreline in Delaware. Other partners in this effort included the Delaware Division of Fish and Wildlife and Delaware Wild Lands. In addition, 10,500 acres have been protected in the North American Waterfowl Management Plan Focus Area for Delaware Bay, with a goal of acquiring an additional 15,000 acres. The Coastal Program is also working with Ducks Unlimited, the Natural Resources Conservation Service, the Sussex Conservation District, Kent Conservation District and American Forests to restore habitats within this area.

Restoring Coastal Forests

Coastal forests provide much needed habitat for a variety of species including neotropical migratory birds. A variety of habitat protection and restoration efforts are underway in the Milford Neck area. One of the largest remaining tracts of coastal forest in Delaware is being restored and protected in this area. The Service is working with its partners to restore coastal forest habitat through a multi-year reforestation effort that will greatly reduce forest fragmentation and stem the loss of palustrine forested wetlands, the wetland type that has experienced the most significant decline in the Mid-Atlantic Region. Examples of these reforestation efforts include projects in which the Service assisted the Nature Conservancy, Delaware Wild Lands, Inc., American Forests, the Delaware Forest Service and the Natural Resources Conservation Service in planting 37,000 tree seedlings on 93 acres of previously-converted marginal farmland.

"As I left the site on the last day I planted, I looked back at what was an old farm field. I imagined the same landscape, but grown in with a variety of native trees. I imagined myself a gray fox sniffing through the leaf litter, in the center of a woodland that could provide for all of my needs. It felt right."

Matt Bailey, Volunteer

Conserving Shorebirds in Delaware Bay

The Coastal Program has played a key role in galvanizing partners to protect Delaware Bay, a resource of international importance for migratory shorebirds. Designated as both a wetland site of international importance under the Ramsar Treaty and part of the Western Hemisphere Shorebird Reserve Network, the Bay hosts each spring millions of migrating shorebirds, including red knots, ruddy turnstones, sanderlings and semipalmated sandpipers. The birds congregate on the beaches here in search of nourishment to sustain them during the last leg of the 10,000 journey to their Arctic nesting grounds.

The spectacle of thousands of shorebirds feeding on horseshoe crab eggs draws over 100,000 tourists each year, contributing millions of dollars to local economies. Photos by Gregory Breese,USFWS

Horseshoe crabs provide the primary food source. As the full mooon rises in the late spring and the tide becomes high, female crabs lay billions of pale green eggs on Delaware Bay beaches in an ancient spawning ritual that has been repeated for 350 million years. Many of these eggs are left on the beach, exposed for the hungry birds. In less than two weeks, the birds will double their weight, each eating thousands of horseshoe crab eggs.

A Resource At Risk

In recent years many people and organizations have become concerned that increased harvesting of horseshoe crabs may be reducing the food available to shorebirds. The Coastal Program joined with a number of partners, including fishermen, the International Shorebird Expedition, the Biological Resources Division of USGS, the Atlantic States Marine Fisheries Commission and the States of Delaware, New Jersey and Maryland, to take actions needed to ensure horeshoe crabs are harvested in a sustainable manner. Foremost among these, in 1998, the Atlantic States Marine Fisheries Commission completed a Fishery Management Plan for horseshoe crabs and imposed catch quotas which are administered by its member coastal States. The Commission based its actions in part on biological data provided by the Coastal Program.

Monitoring Our Progress

The Coastal Program continues to support this shorebird/horseshoe crab conservation effort.

By providing expertise and equipment to support monitoring and research needs identified in the Management Plan, science-based criteria will drive future management decisions.
A Shorebird Technical Committee has been established to assess shorebird populations, identify research needs and make recommendations to the ASMFC for managing the horseshoe crab population.

Finally, the Program has helped develop a web page for western hemisphere-wide monitoring efforts to facilitate data exchange among natural resource managers and make the information more widely available to the public.

Habitat conservation at Milford Neck and protection of shorebird and horseshoe crab populations are just two of the ways that the Coastal Program has contributed to the quality of life in Delaware Bay.

The Human Connection

Horseshoe crabs are important to medical research. Instead of many types of blood cells, horseshoe crabs have primitive large blood cells called amoebocytes. Research on these cells has played a crucial role in unraveling the mysteries of how higher mammals fight disease. These amoebocytes are being used to differentiate between bacterial and viral meningitis. A clotting agent in the amoebocytes cuts down testing time for this acute disease from 48 hours to 15 minutes. All drugs manufactured by pharmaceutical companies are tested for contamination by bacterial toxins using this clotting agent.

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